

## The Effect of Pedagogical and Professional Competence on Teaching Readiness of Vocational Teacher Candidates in the Teacher Professional Education Program (PPG)

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### Abstract

Teaching readiness of vocational teacher candidates in the Teacher Professional Education Program (PPG) is a critical factor in ensuring education quality. This study aimed to examine the effects of pedagogical competence and professional competence on teaching readiness, both directly and indirectly through interest in becoming a teacher as a mediating variable. A quantitative correlational approach was employed with a purposive sample of 100 students who had completed teaching assistance activities. Data were collected using validated and reliable Likert-scale questionnaires (1–5) and analyzed using multiple regression and mediation analysis. Results indicated that pedagogical competence has a significant and direct effect on teaching readiness, while professional competence influences teaching readiness indirectly through students' interest in teaching. Interest in becoming a teacher also has a direct and significant effect on teaching readiness. These findings highlight that teaching readiness is shaped by the interaction between pedagogical skills, professional competence, and intrinsic motivation to pursue the teaching profession. The study emphasizes the importance of integrating pedagogical training, professional skill development, and motivational strategies in vocational teacher education programs to ensure that teacher candidates are fully prepared for their professional roles.

**Keywords:** Pedagogical competence, Professional competence, Teaching readiness, Interest in teaching, Teacher Professional Education Program (PPG)

## 1. Introduction

The concept of educational quality is heavily influenced by teacher competence, the spearhead of the learning process. Professional teachers not only master the teaching material but are also able to design and implement effective teaching and learning processes, enabling students to achieve the expected competencies. In Indonesia, challenges remain in improving teacher quality, particularly for vocational teachers, where pedagogical and professional competence are determining factors for their success in teaching (Fatoni, 2020; Dudung, 2018).

The Vocational Teacher Professional Education Program (PPG) is designed to prepare prospective teachers with adequate teaching skills, both pedagogically and professionally. This program provides students with opportunities to participate in teaching assistance activities, enabling them to apply learning theories to real-world practice in schools. These activities are expected to not only improve teaching skills but also build students' interest and readiness to pursue the teaching profession (Sobri et al., 2021; Sanjaya, 2015).

Several previous studies have shown a relationship between pedagogical competence, professional competence, interest in becoming a teacher, and teaching readiness. Pedagogical competence has been shown to play a crucial role in preparing prospective teachers to manage classrooms and develop effective lesson plans (Iskandar et al., 2020; Nurliana et al., 2025). Meanwhile, professional competence influences students' confidence in mastering teaching materials and technical skills, which can influence their interest in pursuing a career as a teacher (Hardianti & Listiadi, 2021). However, the direct and indirect relationship between pedagogical and professional competence and teaching readiness through teacher interest requires further study, particularly in the context of vocational PPG (Vocational Teacher Training and Education) programs.

Based on this background, this study aims to examine the influence of pedagogical and professional competence on vocational PPG students' teaching readiness, both directly and through the mediating variable of teacher interest. This research is expected to provide an empirical contribution to the development of vocational PPG programs, particularly in improving prospective teachers' readiness to face the challenges of the educational world.

## 2. Method

This study used a quantitative approach with a correlational design to analyze the influence of pedagogical and professional competencies on the teaching readiness of vocational PPG

students. This approach was chosen because it allowed researchers to measure the relationship between variables and test hypotheses formulated based on numerical data (Sugiyono, 2017).

## 2.1. Population and Sample

The population of this study was all students in the Vocational Professional Teacher Education (PPG) Program at State University, graduating in the 2022–2023 intake who participated in teaching assistance programs at partner schools. Based on program administrative data, 120 students were included in the population.

The study sample was drawn using purposive sampling, including students who had completed all teaching assistance programs and completed the questionnaire. Of the 120 students, 100 met the sample criteria. The sample composition can be seen in Table 1 below.

**Table 1. Characteristics of Research Sample**

Characteristic	Category	Frequency	Percentage
<b>Gender</b>	Male	45	45%
<b>Female</b>		55	55%
<b>Vocational Education Major</b>	Electronics Engineering	30	30%
<b>Mechanical Engineering</b>		25	25%
<b>Electrical Engineering</b>		20	20%
<b>Informatics Engineering</b>		25	25%
<b>Age (years)</b>	Mean (Range)	22.4 (21–25)	-

With this number of samples, this study is considered representative to describe the population of vocational PPG students at Malang State University and is sufficient for multiple regression analysis and mediation analysis.

## 2.2. Research Variables

This study used three main variables analyzed quantitatively. The independent variables were pedagogical competence and professional competence. Pedagogical competence refers to students' ability to plan, implement, and evaluate learning effectively, including mastery of the curriculum, learning methods, classroom management, and evaluation of learning outcomes, in accordance with educational principles (Sanjaya, 2015; Hardianti & Listiadi, 2021). Professional competence reflects students' ability to master the subject matter taught and apply it professionally, particularly in the context of vocational PPG (Vocational Teacher Training and

Education), which includes mastery of technology, vocational practical skills, and the application of national competency standards (Dudung, 2018; Santika et al., 2017).

The dependent variable in this study is teaching readiness, which is the level of mental, cognitive, and technical readiness of students to carry out learning in the classroom, including the ability to develop lesson plans, manage classes, use learning media, and self-reflect on teaching practice (Iskandar et al., 2020; Nurliana et al., 2025). In addition, this study uses interest in becoming a teacher as a mediating variable, which indicates students' intrinsic motivation to pursue the teaching profession after completing the PPG program, and acts as a link between the influence of pedagogical and professional competencies on teaching readiness (Haqqi et al., 2021; Alifah & Hastuti, 2023). All variables were measured using a questionnaire with a Likert scale of 1–5, allowing for analysis of direct and indirect influences between variables, providing a comprehensive picture of the internal factors that influence the readiness of vocational PPG students in carrying out their professional duties as teachers.

### 2.3. Research Instrument

Data were obtained through a questionnaire consisting of items on a 1–5 Likert scale, where higher scores indicate higher levels of competence, interest, or readiness to teach. The questionnaire was tested for validity and reliability, with Cronbach's Alpha values >0.7 for each construct, thus declaring the instrument reliable.

**Table 2. Research Instruments and Likert Scale**

Variable	Indicator	Statement	Likert Scale
<b>Pedagogical Competence (X1)</b>	Lesson Planning	The student is able to prepare a complete Lesson Plan (RPP)	1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree
	Teaching Implementation	The student can apply teaching methods suitable for students' characteristics	
	Classroom Management	The student can manage the classroom effectively and orderly	
	Learning Evaluation	The student can evaluate students' learning outcomes accurately	
<b>Professional Competence (X2)</b>	Subject Mastery	The student has good mastery of the vocational subject taught	
	Technical Skills	The student can apply vocational skills professionally	
	Application of Competency Standards	The student applies national competency standards in teaching	
	Career Motivation	The student is motivated to pursue a teaching career	

<b>Interest in Becoming a Teacher (M)</b>	Teaching Interest	The student is interested in becoming a vocational teacher
	Intention to Teach	The student intends to continue a career as a teacher after PPG
<b>Teaching Readiness (Y)</b>	Mental Preparation	The student feels mentally ready to teach in the classroom
	Cognitive Preparation	The student understands the material and teaching strategies to be delivered
	Technical Preparation	The student can use teaching media and technology effectively
	Self-Reflection	The student can assess and improve their own teaching skills

## 2.4. Data Collection Procedures

Data were collected after students completed their teaching assistance activities. Researchers distributed questionnaires online and offline, ensuring all respondents understood the questions before completing them. In addition to the questionnaires, supporting data were obtained from PPG program documents and teaching assistance activity reports.

## 2.5. Data Analysis

Data analysis was conducted using multiple regression to directly test the influence of pedagogical and professional competencies on teaching readiness. Furthermore, mediation analysis was used to assess the indirect influence of pedagogical and professional competencies on teaching readiness through teacher interest. Hypothesis testing was conducted with a p-value  $<0.05$  as the significance level. Data analysis was conducted using SPSS statistical software.

## 3. Result and Discussion

### 3.1. Result

The study analyzed data from 100 respondents using multiple linear regression to examine the effects of pedagogical competence (X1), professional competence (X2), and interest in becoming a teacher (M) on teaching readiness (Y).

Descriptive statistics indicated that students had moderate to high scores on pedagogical competence, professional competence, and teaching readiness, reflecting adequate preparation and motivation after completing the teaching assistance program. Regression analysis results are presented in Table 3.1.

**Table 3.1 Multiple Regression Results**

No.	Independent Variable	$\beta$ Coefficient	t-Statistic	p-Value	Significance
1	Pedagogical Competence (X1)	0.432	3.215	0.002	Significant
2	Professional Competence (X2)	0.156	1.342	0.182	Not Significant
3	Interest in Becoming a Teacher (M)	0.391	3.048	0.003	Significant

Interest in becoming a teacher (M) was tested as a mediator for the effect of professional competence (X2) on teaching readiness (Y). Results showed a significant indirect effect ( $\beta = 0.121$ ,  $p = 0.028$ ), indicating that professional competence enhances teaching readiness indirectly through increased career interest. Pedagogical competence did not show a significant indirect effect via interest.

### 3.2. Discussion

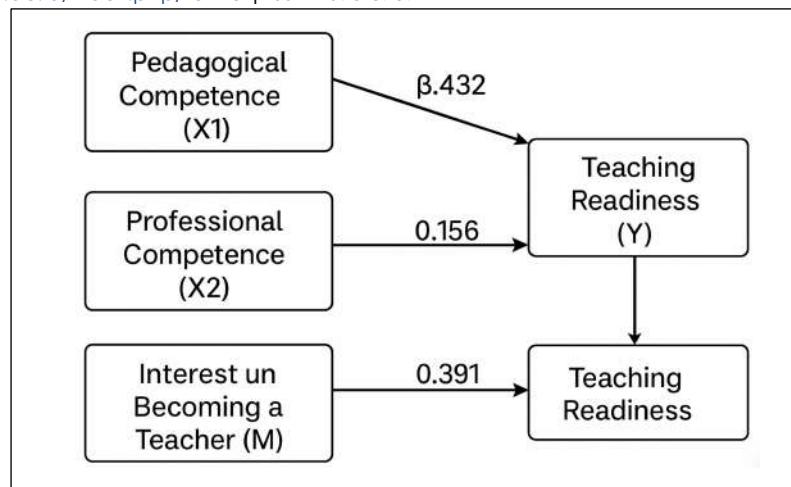
The results reveal that pedagogical competence significantly influences teaching readiness. Students with strong pedagogical skills, including lesson planning, classroom management, and assessment strategies, feel confident and capable of conducting teaching activities. This aligns with prior research emphasizing the importance of pedagogical training in teacher preparation programs.

Conversely, professional competence alone does not significantly predict teaching readiness. Technical mastery, without pedagogical application, may not translate into classroom readiness. However, professional competence indirectly affects readiness through interest in becoming a teacher, suggesting that motivation mediates the relationship between technical skills and teaching preparedness.

The positive impact of interest in becoming a teacher on teaching readiness highlights the role of intrinsic motivation. Students motivated to teach actively engage in learning, internalize competencies, and prepare both mentally and practically for teaching responsibilities. Overall, teaching readiness among vocational teacher candidates is shaped by competence (especially pedagogical competence) and career interest. Teacher education programs should focus on both skill development and fostering teaching motivation to enhance readiness effectively.

### 3.3. Path Diagram (Conceptual Model)

Below is the conceptual path diagram representing the relationships tested in the study in Figure 1.



**Figure 1.** Path Diagram

Figure 1 presents the conceptual path diagram illustrating the relationships between pedagogical competence (X1), professional competence (X2), interest in becoming a teacher (M), and teaching readiness (Y). The diagram visualizes both the direct and indirect effects identified through multiple regression and mediation analyses. From the path diagram, it is evident that pedagogical competence (X1) has a direct and significant effect on teaching readiness (Y), indicated by the standardized coefficient ( $\beta = 0.432$ ,  $p = 0.002$ ). This confirms that mastery of pedagogical skills, including lesson planning, classroom management, teaching methods, and evaluation, directly enhances students' readiness to teach. The visual representation highlights the strength and direction of this direct relationship, reinforcing the role of pedagogical training as a core component of teacher preparation programs.

In contrast, professional competence (X2) does not exhibit a significant direct effect on teaching readiness (Y) ( $\beta = 0.156$ ,  $p = 0.182$ ). However, the path diagram illustrates that X2 influences teaching readiness indirectly through interest in becoming a teacher (M), with a significant mediation effect ( $\beta = 0.121$ ,  $p = 0.028$ ). This mediated pathway indicates that students' mastery of vocational subjects and technical skills enhances their intrinsic motivation and career interest, which in turn positively impacts their preparedness for teaching. Thus, interest in becoming a teacher serves as a key psychological mechanism linking professional competence with teaching readiness.

Furthermore, interest in becoming a teacher (M) has a direct and significant effect on teaching readiness (Y) ( $\beta = 0.391$ ,  $p = 0.003$ ). The diagram clearly shows that students with higher motivation and a strong desire to pursue the teaching profession are more likely to prepare comprehensively, both cognitively and practically, for classroom responsibilities. Overall, the path diagram provides a clear and concise illustration of the structural relationships among the

variables. It emphasizes that teaching readiness among vocational teacher candidates is jointly determined by pedagogical competence and career motivation, while professional competence contributes indirectly by fostering students' interest in teaching. This model underscores the importance of integrating pedagogical skill development, professional knowledge, and motivational strategies within teacher education programs to optimize readiness for professional practice.

#### 4. Conclusion

This study investigated the effects of pedagogical competence, professional competence, and interest in becoming a teacher on the teaching readiness of vocational teacher candidates in the Teacher Professional Education Program (PPG). Based on the results and analysis, several comprehensive conclusions can be drawn:

1. Pedagogical competence has a significant and direct effect on teaching readiness. The findings indicate that students with strong pedagogical skills, such as lesson planning, classroom management, application of teaching methods, and evaluation of learning outcomes, are more confident and prepared to implement teaching in real classroom settings. This underscores the central role of pedagogical training in equipping teacher candidates with the necessary knowledge and skills to manage learning effectively.
2. Professional competence influences teaching readiness indirectly through interest in becoming a teacher. Although professional competence alone, including subject mastery and technical vocational skills, does not directly predict teaching readiness, it significantly contributes to enhancing students' intrinsic motivation and interest in pursuing the teaching profession. This mediated relationship demonstrates that professional skills gain their full impact on readiness when combined with career motivation, highlighting the importance of addressing both technical knowledge and psychological factors in teacher education programs.
3. Interest in becoming a teacher directly affects teaching readiness. Students with higher motivation and commitment to the teaching profession are more engaged in learning activities, actively apply pedagogical and professional skills, and demonstrate readiness both cognitively and practically. This finding confirms that motivational factors are critical in shaping the preparedness of teacher candidates, complementing the role of competencies.
4. The interplay between competencies and motivation shapes overall teaching readiness. The structural model and path analysis show that teaching readiness is the result of a combined effect of pedagogical competence, professional competence mediated by interest, and intrinsic motivation to become a teacher. This integrated model highlights that teacher education

programs must not only develop knowledge and technical skills but also foster students' interest and commitment to the profession.

5. Implications for vocational teacher education programs. The findings suggest that PPG programs should implement a holistic approach that integrates pedagogical training, professional skill development, and strategies to enhance students' motivation and career interest. Programs that fail to address any of these aspects risk producing graduates who are technically competent but not fully prepared to teach effectively in vocational classrooms.

In conclusion, the readiness of vocational teacher candidates to teach is a multidimensional construct shaped by competency, motivation, and the interaction between skills and interest in teaching. Effective teacher preparation requires deliberate attention to both skill acquisition and motivational enhancement to ensure that future vocational teachers are capable, confident, and committed to their professional roles.

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